

REMARKS

An Office Action was mailed on November 17, 2003. Claims 1-7 are pending in the present application.

Claims 1-4 and 6 are now rejected under 35 U.S.C. §103(a) as being unpatentable over Wiblyi et al. (U.S. Patent 4,805,919). Claims 1-4 are also rejected under 35 U.S.C. §103(a) as being unpatentable over Colanzi et al. (U.S. Patent 4,428,629). Claims 1, 5 and 6 are also rejected under 35 U.S.C. §103(a) as being unpatentable over Bugmann (U.S. Patent 3,700,296). Claims 1, 2 and 4 are also rejected under 35 U.S.C. §103(a) as being unpatentable over Moorman et al. (U.S. Patent 2,830,858). In addition, claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over Wiblyi et al., Colanzi et al. and Moorman et al. individually, and further in view of Meyer (DE 4,215,905); claims 2-4 are rejected under 35 U.S.C. §103(a) as being unpatentable over Bugmann and further in view of Dreschmann et al. (U.S. Patent 4,650,195); and claim 7 is rejected under 35 U.S.C. §103(a) as being unpatentable over Ohkuma et al. (U.S. Patent 4,309,916) in view of Wiblyi et al., Colanzi et al., Bugmann and Moorman et al. individually.

Responsive thereto, Applicant has amended the claims to clearly define over the numerous cited art of record. Specifically, Applicant has incorporated the elements of claim 2 into claim 1, has canceled claim 2, and has made all remaining claims dependent on amended claim 1. Thus, the claim now requires that the seal plate has at least one seal lip protruding toward the cylindrical surface formed in a race (inner race in the drawings) in parallel to the center axis of the race, and that the tip edge of this seal lip comes in sliding contact with the cylindrical surface all the way around, as set forth in amended claim 1. Without the seal lip as mentioned above and as set forth in the claims, the pressing force applied from the seal plate to the race would be strong, even if the interference fitting is small, so that the rotating torque of the bearing is inclined to be large. With the seal lip as mentioned above, the pressing force from the seal plate to the race would be weak, so that the rotating torque of the bearing may be kept small.

Thus, the claims of the present invention now require a rolling bearing with seal plate for transmission comprising: an inner race that has an outer peripheral surface formed with an inner

ring raceway in an axially middle portion; an outer race that has an inner peripheral surface formed with an outer ring raceway in an axially middle portion; a plurality of rolling bodies that are rotatably located between the inner ring raceway and the outer ring raceway; and a seal plate that is made of synthetic resin and has peripheral edges such that one of the peripheral edges is attached to part of one of the inner race and outer race, while the other of the peripheral edges is defined by at least one seal lip, the peripheral surface of the other of the inner race and the outer race partly defined by a cylindrical surface in parallel to the center axis of the other race, and the at least one seal lip extending to the side of the rolling bodies, protruding toward the cylindrical surface and having a tip edge coming in sliding contact all the way around the cylindrical surface.

In Wiblyi et al. '919, the seal plate as shown in Fig. 2 is formed in a thick seal lip of a S-shape. While it is hard to understand the direction in which the tip end of the seal lip is protruded, it is evident that Wiblyi fails to teach or reasonably suggest *at least one seal lip extending to the side of the rolling bodies, protruding toward the cylindrical surface and having a tip edge coming in sliding contact all the way around the cylindrical surface*, as claimed. Furthermore, it is abundantly obvious that the pressing force from the seal plate to the inner race 16 would be large in this construction. Accordingly, one skilled in the art would not consider the claimed invention obvious in view of the teaching of Wiblyi et al. '919. Moorman et al. '858 similarly fails to teach or reasonably suggest the seal lip construction of the invention as currently claimed, and thus one skilled in the art would not consider the claimed invention obvious in view of the teaching of Moorman et al. '858 either.

In Colanzi et al. '629, the seal plate as shown in Fig. 2 is formed in a thick seal lip of a C-shape. Therefore, it is hard to understand the direction in which the tip end of the seal lip is protruded. More importantly, however, the pressing force from the seal plate to the inner race 3 is large in the Colanzi et al. construction. Accordingly, one skilled in the art would not consider the claimed invention obvious in view of the teaching of Colanzi et al. '629.

In Bugmann '296, the outer peripheral edge of the seal in an annulus shape is adapted to fit in the outer race 7, while the inner circumferential edge is pressed against the surface of the

inner race 10, which is not cylindrical and not in parallel to the center axis of the inner race. Accordingly, Bugmann '296 also fails to teach or reasonably suggest the claimed invention.

Since Bugmann '296 fails to teach or reasonably suggest the claimed invention as currently set forth, one skilled in the art would not consider the claimed invention to be obvious in view of the combination of Bugmann '296 and Dreschmann et al. '195. In addition, in Dreschmann et al. '195, the seal plate as shown in Fig. 2 is formed in a thick seal lip of a C-shape. Therefore, it is hard to understand the direction in which the tip end of the seal lip is protruded. However, the pressing force from the seal plate to the inner race 2 would be large in this construction. Furthermore, the tip end of the inner circumferential edge could not be a seal lip because it is generally thick. Accordingly, one skilled in the art would also not find motivation in, or consider the claimed invention obvious in view of the teaching of Dreschmann et al. '195, alone or in combination with other references as asserted by the Examiner.

Finally, since none of the prior art teaches or reasonably suggests the roller bearing with seal plate as set forth in claim 1 and for the reasons noted above, it is respectfully submitted that one skilled in the art would not consider it obvious to provide the transmission of claim 7 incorporating the roller bearing of claim 1, in addition to the other elements set forth in claim 7.

Accordingly, it is respectfully requested that the Examiner withdraw all of the rejections under 35 U.S.C. §103(a).

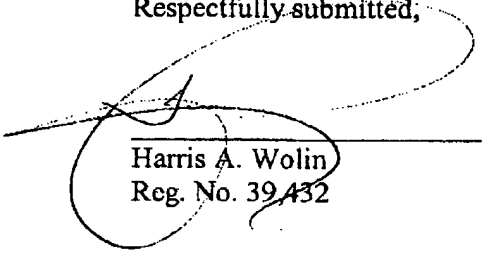
An earnest effort has been made to be fully responsive to the Examiner's objections. In view of the above amendments and remarks, it is believed that claims 1 and 3-7, consisting of independent claim 1 and the claims dependent therefrom, are in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason the Examiner should consider this application not to be in condition for allowance, he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

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Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,



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